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SOAH DOCKET NO. 473-16-5823.WS
P.U.C. DOCKET NO. 46120

CITY OF MIDLOTHIAN NOTICE OF	**§**	**BEFORE THE STATE OFFICE**
INTENT TO PROVIDE WATER	**§**	
SERVICE TO LAND DECERTIFIED	**§**	**OF**
FROM MOUNTAIN PEAK SPECIAL	**§**	
UTILITY DISTRICT	**§**	**ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY
OF
VICTORIA R. HARKINS, PH.D., P.E.

ON BEHALF OF
THE CITY OF MIDLOTHIAN, TEXAS

January 17, 2017

(Filename: DOCS1-#247352-v1-Direct_Testimony-V_Harkins.doc)

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CITY OF MIDLOTHIAN NOTICE OF INTENT TO PROVIDE WATER SERVICE TO LAND DECERTIFIED FROM MOUNTAIN PEAK SPECIAL UTILITY DISTRICT	**§**	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

GLOSSARY OF ACRONYMS/DEFINED TERMS

Acronym/Defined Term	Meaning
CCN	Certificate of Convenience and Necessity
City *or* Midlothian	City of Midlothian, Texas
Commission *or* PUC	Public Utility Commission of Texas
Decertification Order	The final order in PUC Docket No. 44394, entered May 1, 2015, decertifying the Park.
Decertified Area *or* Park	Approximately 97.7 acres in Ellis County, Texas, removed from Mountain Peak's CCN in PUC Docket No. 44394.
Mountain Peak *or* MPSUD	Mountain Peak Special Utility District
Notice of Intent	Notice of Intent to provide retail water service filed in this docket
TCEQ	Texas Commission on Environmental Quality
TNRCC	Texas Natural Resource Conservation Commission
TWC	Texas Water Code

SOAH DOCKET NO. 473-16-5823.WS
P.U.C. DOCKET NO. 46120

CITY OF MIDLOTHIAN NOTICE OF INTENT TO PROVIDE WATER SERVICE TO LAND DECERTIFIED FROM MOUNTAIN PEAK SPECIAL UTILITY DISTRICT	§	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

LIST OF SPONSORED EXHIBITS/ATTACHMENTS
(Victoria R. Harkins, PH.D., P.E.)

DIRECT TESTIMONY OF VICTORIA R. HARKINS, Ph.D., P.E.

I. WITNESS INTRODUCTION AND QUALIFICATIONS

Q. What is your name, title and business address?

A. I am the owner of Harkins Engineering, Inc. (HEI). HEI provides environmental, municipal and civil engineering consulting services to governmental and private corporation clients. My business address is 3300 Lost Oasis Hollow, Austin, Texas 78739

Q. On whose behalf are you testifying in this proceeding?

A. I am presenting testimony on behalf of the City of Midlothian, Texas, the retail public utility that seeks certification to provide retail water service to a City park in this proceeding.

Q. **Please describe your educational background and past work experience.**

A. I graduated with a Bachelor's degree in Biochemistry in 1992, a Masters in Civil Engineering in 1995, and a Ph.D. in 1998. Each degree was from Texas Tech University. I worked as a research assistant and instructor in the Department of Civil Engineering at Texas Tech University, and I also served as an adjunct professor in the Department of Environmental Sciences at Lubbock Christian University. During the summers of 1996 and 1997, I also worked as a consultant for Cypress Engineering, Inc.

Q. **Are you a professional engineer?**

A. I am a licensed professional engineer in the States of Texas (No. 87733) and Oklahoma (No. 20957). I am a member of the American Society of Civil Engineers (ASCE). I have also been named a Diplomate of Water Resources by ASCE.

Q. **When did you become a licensed professional engineer?**

A. 2001.

Q. What is your previous employment history?

A. From June 1998 to August 2002, I was employed with the Texas Commission on Environmental Quality (previously the Texas Natural Resource Conservation Commission or "TNRCC") as an Engineer V and Team Leader of the Utility Certification and Rate Analysis Team. From September 2002, through January, 2006, I was employed by Espey Consultants, Inc., as a project manager. I started HEI in January 2006.

Q. Please describe your experience with retail water or sewer decertification proceedings.

A. During my tenure at the TCEQ from 1998 to 2002, I was Team Leader for the Utility Certification and Rate Analysis team of the Water Supply Division. I was responsible for managing review and issuance of all approvals for certificates of convenience and necessity for retail water and wastewater utilities and the rate-making requirements for all investor owned utilities in the State of Texas. My responsibilities included reviewing and processing applications to obtain, amend or transfer CCNs, reviewing rate applications and rate appeals filed with TCEQ, negotiating settlements, preparing testimony and exhibits for contested hearings, conducting inspections of utility systems, and reviewing public water system plans and specifications. I processed over three hundred applications for an amendment and/or to obtain a CCN and over 100 rate-related applications. I served as the state's expert resource for legislative contacts for water and sewer utility service issues. After leaving the TCEQ, I have been retained on numerous additional CCN and/or rate related projects for various clients. Since 2002, I have been engaged on numerous occasions as a consulting or a testifying expert in water or sewer decertification proceedings before the TCEQ and the Commission. I have experience that relates directly to applications and petitions that included the issue of whether facilities have been rendered "useless or valueless" under TWC §§ 13.254 and 13.255.

Q. Was attachment VH-1 prepared by you or under your direct supervision and control?

A. Yes.

Q. Please describe the attachment accompanying your testimony.

A. Attachment VH-1 is a true and correct copy of my professional resume which also includes a true and correct copy of a list of matters in which I provided professional testimony before the TCEQ and PUC.

Q. Does attachment VH-1 fairly and accurately summarize your professional experience, education and professional affiliations?

A. Yes.

Q. As part of your job responsibilities in dealing with water and sewer utilities, has it part of your assignments to read, analyze and understand applicable statutes, rules and regulations?

A. Yes, in order to comply with my professional duties and job expectations, I must continually read and interpret statutes, rules and regulations, including, as applicable, those pertaining to the TCEQ and PUC.

II. ASSIGNMENT & SUMMARY OF TESTIMONY

Q. What is your assignment in this proceeding?

A. Under the Commission's Preliminary Order, this phase of the proceeding is focused upon identifying what property of Mountain Peak, if any, was rendered useless or valueless under TWC § 13.254(d) by the Park's decertification in PUC Docket No. 44394. I am testifying to this issue.

Q. **Where you able to form an opinion or come to any conclusions regarding the issue?**

A. Yes.

Q. Please summarize your testimony.

A. Based upon TWC § 13.254(d), the definitions of "useless" and "valueless," and the evidence I have been provided in this proceeding, it is my opinion that Mountain Peak does not, and will not, as a result of the Park's decertification, have any facilities rendered "useless or valueless."

Q. In your analysis, where do you get the definition of "useless" and "valueless"?

A. The definitions for useless and valueless are not specifically defined in the TWC. Based on a Merriam-Webster Dictionary definition, the term "useless" indicates having or being of no use. "Valueless" indicates having no value. Mountain Peak does not have any facilities that are, as a result of the Park decertification, having no use or being rendered "useless." No Mountain Peak facilities will be abandoned or stranded as a result of the decertification. Mountain Peak facilities retain their then-current value regardless of the decertification.

III. ANALYSIS

Q. What work have you done for the City of Midlothian in this proceeding?

A. In formulating my opinion, I reviewed filings of the parties in Docket No. 44394, *Petition of City of Midlothian to Amend Mountain Peak Special Utility District's Certificate of Convenience and Necessity by Expedited Release in Ellis County*, including the

Commission's Decertification Order of May 5, 2015, approving the petition and decertifying the 97.7-acre Park from the retail water service area of Mountain Peak. I have also reviewed the parties' filings in this docket, including discovery responses and documents produced by Midlothian and Mountain Peak. In the course of my analysis, I have examined other similar proceedings pending before the Commission, as well as rules and precedents referenced by the parties.

Q. Please describe the process you undertook to form your opinions and reach your conclusions.

A. The process was two-fold. First, I reviewed the evidence produced to see what real or personal property of Mountain Peak as potentially related to the Decertified Area to determine whether any property might no longer be useful or have value. Second, I reviewed the regulatory framework for determining the questions raised in this Notice of Intent, namely, reviewing the Preliminary Order, the order decertifying the Park, and the underlying statutes implicated in this proceeding.

Q. Why did you adopt this two-fold approach?

A. This approach allows me to first become familiar with Mountain Peak's system, particularly as it existed on May 1, 2015, when the decertification order was entered, and then to properly apply the principles of the controlling statute, rules and orders to the facts and circumstances of this case. In other words, this process is meant to logically address the key question presented in the Preliminary Order:

1. What property, if any, has been rendered useless or valueless to Mountain Peak by the decertification granted in Docket No. 443946? TWC § 13.254(d); 16 TAC § 24.113(h).

Q. **Were you able to form any opinions on the Mountain Peak's system at the date of decertification?**

A. In my professional experience, I often review and audit water systems' facilities, such as those pertaining to the Mountain Peak water system, and I was able to form opinions related to the issue in this case. Based upon my review of Mountain Peak's documents, I observed that the Mountain Peak system is similar to other water supply corporations ("WSCs"), including WSCs that converted into special utility districts ("SUDs"), with respect to having somewhat smaller distribution lines and having growth of the system occurring

development-by-development, with only limited master planning and larger transmission lines. Facilities are typically installed with developer-led initiatives with the purpose of serving only that development. As of 2004, the Mountain Peak system had more than 25% of its lines sized 2 1/2" or less, which is typical for rural systems with smaller lines around the edges of the system that are capable of little additional service. In my opinion, significant improvements would be needed for both facilities and water production with any new greater-than-standard requests for service. Further, with limited line size, the ability of the system to provide fire flow is impeded. As such, I can conclude that the decertification of the small, unplatted farmland, namely, the Park, which was not receiving service, would not impact Mountain Peak's system by rendering anything useless or valueless to the rest of the system.

Q. Why was a review of the regulatory framework and controlling statutes important?

A. First, it is important because, as noted in the Preliminary Order, the Commission has, since July 2016, refined its process for complying with its obligation to determine whether any property was "rendered useless or valueless to the decertified retail public utility as a result of the decertification" as provided under TWC § 13.254(d). Second, this is important because, of the multiple ways a utility can be subject to a decertification order under TWC § 13.254, decertification under the expedited processes provided to landowners under § 13.254(a-5)-(a-6) directly implicates the question raised under TWC § 13.254(d). Based upon controlling state court precedent, *Texas General Land Office v. Crystal Clear Water Supply Corporation*, 449 S.W.3d 130 (Tex. App.—Austin 2014, pet. denied), discussed in Part II of the Decertification Order, the Commission granted decertification after a fact-based inquiry that required it to consider whether Mountain Peak had facilities or lines *committed to providing water to the particular tract* or had *performed acts or supplied anything to the particular tract.* Those findings cannot be ignored in this proceeding. While I reach the same conclusion in the first part of my analysis, in this second part of my I analysis I conclude that Mountain Peak did not have any facilities committed in any fashion to the Park as evidenced, in part, by the decertification. As such, the Mountain Peak system does not have any property to even consider being "rendered useless or valueless" by the decertification.

Q. Please summarize your conclusions.

A. My conclusions are:

1) As of the decertification order, on May 1, 2015, the Park was unplatted farmland that had Mountain Peak facilities on or nearby, including a water transmission line traversing the southern border of the property currently in use for other particular tracts.

2) The evidence produced by Mountain Peak in this docket does not establish that any Mountain Peak property was rendered useless or valueless by the Decertification Order. In fact, Mountain Peak does not have any facilities that have now been abandoned due to the decertification or Park development.

3) In addition, the Decertification Order, in Conclusion of Law Nos. 8, 10 and 11, memorializes the Commission's finding that, despite the facilities presented as providing service, Mountain Peak had "not committed facilities or lines" to the Park, and the Park was not "receiving water service" under TWC §13.254(a-5), the specific provision under which decertification was obtained.

4) Therefore, no Mountain Peak facilities have been rendered useless or valueless as set forth in TWC §13.254(d).

Q. Does this conclude your prefiled direct testimony?

A. Yes, but I reserve the right to supplement my testimony as additional information becomes available.

AFFIDAVIT OF
VICTORIA HARKINS, Ph.D., P.E.

STATE OF TEXAS
COUNTY OF TRAVIS

VICTORIA HARKINS first being sworn on his oath, states:

My name is Victoria Harkins. I am the witness identified in the preceding testimony. I have read the testimony and any accompanying exhibits that I sponsor, and I am familiar with their contents. Based upon my personal knowledge, the facts stated in my testimony are true. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the testimony are true, valid and accurate.

Victoria R. Harkins
Victoria R. Harkins

SUBSCRIBED AND SWORN TO before me this 17 th day of January 2017 by VICTORIA R. HARKINS.

LOYNDA J. JONES
NOTARY PUBLIC - STATE OF TEXAS
ID# 10782897
COMM. EXP. 03-10-2020

Lynda J. Jones
Notary Public, State of Texas
My Commission Expires 03-10-2020

CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of January, 2017, a true and correct copy of the above and foregoing document was served by electronic mail to the persons on the service list:

Paul M. Gonzalez

EXHIBIT
VH-1

Victoria Richards Harkins, Ph.D., P.E., President

Harkins Engineering, Inc., 3300 Lost Oasis Hollow, Austin, Texas 78739

Education:

- B.A. Biochemistry, Texas Tech University, 1992
- M.S. Civil Engineering, Texas Tech University, 1995
- Ph.D. Civil Engineering, Texas Tech University, 1998

Professional/Technical Affiliations:

- Texas State Board of Professional Engineers – Professional Engineer No. 87733
- Oklahoma State Board of Professional Engineers – Professional Engineer No. 20957
- Member of American Society of Engineers
- Diplomate Water Resources Engineer –American Academy of Water Resources Engineers
- Texas Tech University Civil Engineering Academy Member
- Texas Tech Civil and Environmental Engineering Advisory Council

Awards/Recognitions:

- Texas Tech University Distinguished Engineer, 2014
- American Society of Civil Engineers Texas Outstanding Civil Engineering Award, 2012
- American Council of Engineering Companies Texas Gold Medal/Eminent Conceptor, 2011
- American Council of Engineering Companies National Recognition Award, 2011

Fields of Experience:

Dr. Victoria Richards Harkins is currently a private engineering consultant in Austin, Texas. Dr. Harkins provides project management and engineering services for small, private, and multi-million dollar projects which included water and wastewater engineering, environmental engineering including water quality and soil contamination and remediation, and general civil engineering projects. Dr. Harkins has several years of experience in environmental site investigations, regulatory compliance, and environmental engineering including soil, subsurface soil, surface water, groundwater and solid and hazardous waste.

Publications:

Harkins, V., Kullbreth, M. (2011) "DEL Tank Uses Dewatering System to Clarify and Restore Texas Hill Country Landmark" International Dredging Review.

Harkins, V. (2008) TCEQ FY09 Annual Water Quality, CAFO, Pretreatment, and Storm Water Training, Assessment of Aquatic Habitat Damage due to Unauthorized Storm Water Discharges, Clear Lake, Texas.

Harkins, V. (2008) "Why Conduct a Water and Wastewater Rate Study" Presentation for Texas Rural Water Association, Tyler, Texas.

Harkins, V. (2002) "Retail Public Water and Sewer Utility Service in Texas" Proceedings of the Fall Meeting of the Texas Section of ASCE, Waco, Texas.

Harkins, V. (2002) "Water and Sewer Utilities 101" Proceedings of the Texas Environmental Trade Fair, Austin, Texas

Harkins, V., Mollhagen, T., Rainwater, K. and Heintz, C. (1999) "Aerobic Biodegradation of High Explosives, Phase I - HMX" Bioremediation Journal. 3(4):285-290.

Harkins, V, Mollhagen, T., Rainwater, K. and Heintz, C. (1998) "Aerobic Biodegradation of Octahydro-1,3,5,7-tetranitro-1,3,5,7,tetrazocine (HMX)" Proceedings of the Spring Meeting of the Texas Section of ASCE, South Padre Island, Texas.

Harkins, V., Mollhagen, T., Rainwater, K. and Heintz, C. (1998) "Aerobic Biodegradation of Octahydro-1,3,5,7-tetranitro-1,3,5,7 tetrazocine (HMX)" Proceedings of the Remediation of Chlorinated or Recalcitrant Hydrocarbons Battelle Conference.

Expert Witness Testimony:

- In the matter of the City of Pearland, Texas (SOAH Docket Nos. 582-98-0994 and 582-98-1977)
- In the matter of AquaSource Development Company regarding Briar Creek Subdivision in Travis County (SOAH Docket No. 98-1479-UCR)
- In the matter of Hays v. Frankford Properties in the 72nd District court in Lubbock, Texas
- In the matter of Creedmoor-Maha Water Supply Corporation (SOAH Docket No. 582-00-0546)
- In the matter of the City of Fort Worth (SOAH Docket No. 582-00-1092)
- In the matter of Woodcreek Utilities, inc. (SOAH Docket No. 582-00-1469)
- In the matter of City of Crandall (SOAH Docket No. 582-00-1479)
- In the matter of Mustang Water Supply Corporation and the Town of Little Elm (SOAH Docket No. 582-01-1618)
- In the matter of The City of Midlothian and City of Cedar Hill (SOAH Docket No. 582-02-1618)
- In the matter of the City of Prosper (SOAH DOCKET NO. 582-03-1994)
- In the matter of East Medina Special Utility District (SOAH DOCKET NO. 582-04-1012)
- In the matter of the Petition of Collin Count Municipal Utility District (SOAH DOCKET NO. 582-04-2699)
- In the matter of AquaTexas, Inc. for a water and wastewater tariff change and rate increase (SOAH DOCKET NOS. 582-05-2770, 582-05-2771, 582-05-3745, 582-05-4181, 582-05-4182, 582-05-4184)
- In the matter of Cease and Desist Petition Of Wax Mid, Inc. Certificate of Convenience and Necessity (CCN) No 11966 against The City Of Midlothian, CCN No. 11706 In Ellis County, Texas (SOAH DOCKET NO. 582-06-1029, TCEQ DOCKET NO. 2006-0487-UCR).
- In the matter of the City of Georgetown, Certificate of Convenience and Necessity No. 12369 in Bell, Burnett and Williamson Counties, Texas (SOAH DOCKET NO. 582-14-3380, TCEQ DOCKET NO. 2014-0437-UCR).
- In the Matter of Metal Coaters Operating, L.P., V. L. W. Kohlmeyer, LWK-MPOH Liquidating, Inc., et al. 189th Judicial District, Harris County, Texas, Cause No. 200405898.
- In the Matter of Travis County, TX and the State of Texas, v. Rodman Excavation, Inc. and Coldwater Development, Ltd. For erosion assessment and repair, TCEQ DOCKET NO. 2007-1198-WQ-E. 98TH Judicial District, Travis County, Cause NO. D-1-GV-07-002293.
- In the Matter of the City of Frisco, TX om the Matter of the Formal Complaint of ADC West Ridge, L.P. and Center for Housing Resources, Inc. Cause No. 473-16-4619, PUC Docket 45870
- In the Matter of USOR Site PRP Vs. A&M Contractors, Inc., et al. Civil Action No. 4:14-cv-2441 in US District Court Southern District, Houston Division (Declaration)

Selected Environmental Experience:

Environmental Information Document (EID)/Environmental Assessment, City of Grand Prairie, Texas: Dr. Harkins was the project manager for the development and prosecution of an EID/EA as required as part of the NEPA process for submittal to the USACE for easement related to a large wastewater line. The EA focused on resources: soil, water, air, biological, cultural resources, land use, aesthetics, hazardous, toxic, and radioactive materials, socioeconomics, geology, and vegetation. The analysis included the evaluation of surface and ground water; biological resources of plant and wildlife species, terrestrial communities, wetlands, and freshwater aquatic communities; cultural resources (Archeology); and socioeconomic factors that could potentially affect the citizens of Ellis County, Texas. Consideration was made to the affected environment as it exists currently as well as impacts to such under four different alternative project scenarios. The Finding of No Significant Impact was issued.

Affected Environment, EID, LCRA SAWS Water Supply Project, - Matagorda Bay Health Study, Austin, Texas: Dr. Harkins served as task leader for data inventory, acquisition, evaluation and management of physical, chemical, hydrological, biological data for the Matagorda Bay and all the connecting and minor bays as part of a project team for the development of an Environmental Information Document/Environmental Assessment of the large water resources project. Data was evaluated for its period of record, quality, format, and accessibility for all water quality and biological parameters of Matagorda Bay to establish the current existing status of the bay for future consideration of potential project alternatives.

Nationwide Permit No. 12, City of Grand Prairie, Texas. Dr. Harkins served as the project manager for the development and acquisition of a Nationwide Permit for the location and construction of a large collection system through Waters of the United States. The permit application included address of current conditions, waters of the US, historic properties, threatened and endangered species, wetlands, wildlife, noise, and use characteristics. The permit was secured.

Hamilton Pool Hamilton Creek and Davis Creek Assessment and Remediation, Travis County, Austin, Texas: Dr. Harkins was the project manager for a detailed creek assessment and natural pond remediation due to point source pollution upstream due to failure of on-site erosion control measures and insufficient best management practices. As a result, large and repetitive stormwater runoff events led to the discharge of sediment laden stormwater. Thus, large amounts of silt have been deposited in the creek and in Hamilton Pool. A detailed project assessment was completed. Remediation design has been completed. Restoration activities included a crude clean-up and a combination of crude and wash-down method. Clean-up of the pool was conducted using divers and high pressure filter presses with a return of treated water to maintain water level vegetative benches.

Water Quality Assessment and Remediation, Austin, Texas: Dr. Harkins was the field manager for a natural pond remediation due to point and non-point source pollution upstream. The project contained many sensitive biological and ecological factors. Remediation encompassed a pump and treat system with careful return of treated water. Project assessment included a detailed assessment of the current water quality, nutrient loadings from sediments (in the pool and upstream), background concentrations, and comparable water quality concentrations. A detailed literature review has been completed as well as an extensive field assessment. The project met its goals and was successfully completed.

Water Quality and Streambed Assessment and Restoration, Hays County, Texas: Dr. Harkins was the project manager to assess a streambed affected by upstream development activities. Point and non-point source pollution entered a contributing stream affecting a large subdivision downstream. Results of the assessment have been presented, and remediation alternatives were presented.

Oil and Gas Assessment and Remediation, Texas: Dr. Harkins is currently the project manager to provide professional civil and environmental engineering and consulting services related to environmental oversight, and representation for a private client for response to oil and gas contamination of the clients' private property due to the pipeline transfer of refined and unrefined petroleum product. Dr. Harkins has conducted an independent assessment of the remediation of a refined product spill from a ruptured pipeline into shallow groundwater on the property including an analysis of groundwater data, product recovery efforts, and overall remediation effectiveness. This review demonstrated the pipeline company had overstated the effectiveness of remediation. Dr. Harkins established a remediation endpoint based on recovery data, developed a groundwater monitoring well network for the site, and provided continued recovery recommendations to the TCEQ.

Metals Assessment, Sampling and Remediation Alternatives: Dr. Harkins also conducted a creek and lake assessment from previous metals contamination. Dr. Harkins has also completed an on-site sampling of a recent discovery of a petroleum product spill during pipeline assessment and repair. Dr. Harkins is also project manager for the placement and installation of several groundwater monitoring wells to test for the presence and potential restoration of petroleum related discharge.

Water Quality Pond Assessment and Wastewater Reuse, Austin, Texas: Dr. Harkins served as field manager for a project to assess the applicability of using treated wastewater effluent as make-up water for a stormwater quality pond/detention pond. An extensive literature review was completed and field analysis and prototype studies were scoped. Field studies were designed to test the pond's ability to treat the potentially higher levels of nutrients and other potential contaminants.

Environmental Assessment, Vista and Encantada, Llano County, Texas: Dr. Harkins was a project manager for a surface water pond water quality investigation for potential herbicide, pesticide, and other potential contaminants of concern as part of a due diligence for a property transfer.

PCB Contamination and Remediation, Houston, Texas: Dr. Harkins served as a project manager of a multi-million-dollar remediation of an industrial site in Texas contaminated with PCBs, heavy metals and total petroleum hydrocarbons. Work has included: delineation of the contamination profile, site surveys, groundwater assessment, remediation design, on site management, soil samples, and contractor bid and oversight. The site was accepted into the VCP program of the TCEQ. Dr. Harkins completed all the site delineation, remediation design and managed first hand all field work. Remediation was accomplished via excavation and disposal with concrete pad for final overlay. Post closure documentation has been provided to both the TCEQ and EPA for completion. A release of liability has been awarded by the TCEQ.

Site-Wide Ecological Risk Assessment (ERA), Pantex/BWXT, Amarillo, Texas: Dr. Harkins served as the field manager for the sample collection requirement for additional data needed to support the ERA. Tasks include coordination with Pantex personnel, organization of sampling crews, sampling, QA/QC and reporting requirements. Both surface water and sediment samples were collected at five separate playas at approximately 18 sites per playa to represent potential points of exposure and biologically active zones.

Riparian Restoration, New Braunfels, TX Landa Lake: Dr. Harkins served as a project manager providing environmental restoration a part of a habitat enhancement for the endangered species, the Riffle Beetle and Fountain Darter. Work has included sediment removal, riparian restoration, erosion control, and re-vegetation.

Phase II Environmental Site Investigation: Total Petroleum Hydrocarbons and BTEX Contamination, Possum Kingdom, Texas: Dr. Harkins served a project manager for a Phase II environmental site investigation for a currently planned development. The site has a history of oil and gas production with a resulting contamination around well heads and storage tank embankments.

Water Quality Modeling, The Tidelands, Port O'Connor, Texas, Dr. Harkins completed a water quality study of a proposed subdivision located northwest of Port O' Connor, Texas. Modeling of the subdivision was done to ensure adequate dissolved oxygen levels in the far reaches of the subdivision. Parameters included sediment oxygen demand, aerations, dispersion, biochemical oxygen demand, tides, meteorological factors, surface water runoff, temperature, etc.

Water Quality Modeling, Beachside Development, Seadrift, Texas, Dr. Harkins completed a water quality study of a proposed subdivision located along San Antonio Bay, Texas. Modeling of the subdivision was done to ensure adequate dissolved oxygen levels in the far reaches of the subdivision. Parameters included biochemical oxygen demand, tides, meteorological factors, benthic demand, surface water runoff, temperature, etc.

Water Quality Modeling, The Sanctuary, Port O'Connor, Texas, Dr. Harkins completed a water quality study of a proposed subdivision located along Matagorda Bay, Texas. Modeling of the subdivision was done to ensure adequate dissolved oxygen levels in the far reaches of the subdivision.

Water Quality Modeling, Seadrift, Texas, Dr. Harkins was project manager for a water quality model of a proposed subdivision near Seadrift, Texas located along Espiritu Santo Bay. Initial data collection was completed for model development including biochemical oxygen demand, tides, meteorological factors, benthic demand, surface water runoff, temperature, etc. Alternatives for subdivision design were completed with related water quality effects being addressed.

Water Quality Modeling, Copano Bay Development, Dr. Harkins completed a water quality study of a proposed subdivision located along Copano Bay, Texas. Modeling of the subdivision was done to ensure adequate dissolved oxygen within the proposed channel lengths. Parameters included biochemical oxygen demand, tides, meteorological factors, benthic demand, surface water runoff, temperature, etc.

Environmental Site Assessment (ESA), Jonestown, Texas, Texas, Dr. Harkins performed a Phase I environmental site assessment for a commercial property used for boat storage, off-site storage, a small mobile home park, and vacant land. The ESA was completed in accordance with all applicable ASTM standards.

ESA, Possum Kingdom, Texas, Texas, Dr. Harkins performed a Phase I environmental site assessment for a large undeveloped ranch land planned for a large multi-family, marina and estates development. The site had numerous oil and gas production facilities. The ESA was completed in accordance with all applicable ASTM standards.

ESA, San Marcos, Texas, Dr. Harkins performed a Phase I environmental site assessment for a commercial property for a previous auto restoration and salvage operations. The ESA was completed in accordance with all applicable ASTM standards.

ESA, Austin, Texas, Dr. Harkins performed a Phase I environmental site assessment for a land development project. The ESA was completed in accordance with all applicable ASTM standards.

ESA, Buffalo, Texas, Dr. Harkins performed an ESA compliant with (Texas Department of Housing and Community Affairs, Real Estate Division, Real Estate Analysis Rules, 1.35) and ASTM Practice E 1527-

09. Assessment included a site reconnaissance and area survey which included a detailed physical observation of the property, interviews with identified person(s) familiar with the property's history, and inquiries to the appropriate public agencies in an attempt to determine if past practices or current conditions at the site may have caused an environmental impact on the property, a 50-year chain-of-title and environmental lien search was performed and reviewed to assess historical ownership of the property, review of available historical aerial photographs, federal, state, and local regulatory agencies enforcement and permitting records were reviewed for evidence of prior contamination on the property or in the vicinity of the property, a review was completed of state and federal environmental databases for areas of environmental concern within the recommended American Society for Testing and Materials (ASTM) radius of the property, a review of USEPA Radon Zone Information, a review of TCEQ Drinking Water Database, and a review of HUD guidelines for Noise Assessment Study triggers.

ESA, Buffalo, Texas, Dr. Harkins performed an ESA compliant with (Texas Department of Housing and Community Affairs, Real Estate Division, Real Estate Analysis Rules, 1.35) and ASTM Practice E 1527-09. See description above.

ESA, Taft, Texas, Dr. Harkins performed an ESA compliant with (Texas Department of Housing and Community Affairs, Real Estate Division, Real Estate Analysis Rules, 1.35) and ASTM Practice E 1527-05. See description above.

ESA, West Columbia, Texas, Dr. Harkins performed an ESA compliant with (Texas Department of Housing and Community Affairs, Real Estate Division, Real Estate Analysis Rules, 1.35) and ASTM Practice E 1527-05. See description above.

ESA, Three Rivers, Texas, Dr. Harkins performed two ESAs compliant with (Texas Department of Housing and Community Affairs, Real Estate Division, Real Estate Analysis Rules, 1.35) and ASTM Practice E 1527-05. See description above.

Selected Water and Sewer Utility Experience:

Engineer V, Texas Commission on Environmental Quality (TCEQ), Austin, Texas. Dr. Harkins was a senior engineer for the Water Supply Division of the TCEQ for over four years. Dr. Harkins' team processed over 300 certification applications a year and over 75 ratemaking applications per year. Dr. Harkins served as a legislative resource and provided testimony for a variety of legislators as well as numerous committee hearings at the Capitol.

Plans and Specifications, TCEQ, Austin, Texas: Dr. Harkins reviewed and approved/disapproved over 300 design plans and specifications submitted by public water supply systems in the State of Texas. The review consisted of technical design, capacity calculations and compliance for distribution water lines, ground storage tanks, elevated storage tanks, hydropneumatic tanks, and service pumps and public drinking water wells with well pump capacities. The review was made to ensure compliance with the requirements of TCEQ's Chapter 290 Rules and Regulations for Public Drinking Water Systems and the Texas Health and Safety Code.

Expert Witness, Wholesale Rate Appeal, City of Gladewater, Texas. Dr. Harkins provided expert testimony related to a wholesale water and wastewater rate appeal. As a governmental entity, a rate may be changed without state approval. The water and/or wastewater recipient may file an appeal with the State for review. At such time, evidence must be provided that the rate is fair and justifiable. Dr. Harkins assisted in settlement negotiations through SOAH arbitration.

Outside City Customer Appeal, Parker County, Texas. Dr. Harkins was retained by the Parker County Communities Coalition to provide professional engineering services as related to a rate increase made by the City of Willow Park. Dr. Harkins will provide a professional opinion on the reasonableness of the rates set for outside city customers as well as an opinion of the expenses used to determine the rate established.

Expert Witness, Certificate of Convenience and Necessity (CCN), City of Royse City, Texas. Dr. Harkins was retained to assist the City of Royse City in a contested hearing related to the utility's ability to provide continuous and adequate service and amend its current CCN for water service and to obtain a sewer CCN.

Expert Witness, Certificate of Convenience and Necessity, City of Prosper, Texas. Dr. Harkins was retained to provide expert witness testimony for the City of Prosper related to the City of Prosper's CCN. Dr. Harkins has testified as to the City of Prosper's ability to serve as well as address each of the required criteria to amend a CCN.

Expert Witness, Certificate of Convenience and Necessity, City of Midlothian, Texas. Dr. Harkins provided expert witness testimony for the City of Midlothian related to the City of Midlothian's CCN and its service area.

Expert Witness, Certificate of Convenience and Necessity, East Medina County Special Utility District, Medina County, Texas. Dr. Harkins was retained to assist the District in a contested hearing related to the utility's ability to provide continuous and adequate service and amend its current CCN for water service. Dr. Harkins testified as to the District's ability to serve as well as address each of the required criteria to amend and obtain a CCN.

Certificate of Convenience and Necessity, City of Midlothian, Texas, Dr. Harkins was retained by the City of Midlothian to prepare and prosecute a CCN amendment for a large development within the city's corporate limits as well as address a potential cease and desist request.

Certificate of Convenience and Necessity, Towns of Annetta, Annetta South, Annetta North, Hudson Oaks and Aledo, Texas. Dr. Harkins is currently retained by the Parker County Cities Coalition to provide professional engineering services as related to a sale, transfer, merger application made by the City of Willow Park.

Certificate of Convenience and Necessity Transfer and Cancellation, Houston, Texas. Dr. Harkins was retained by BCWK to complete a wastewater transfer, public water system transfer, and CCN cancellation for a privately-owned water and wastewater system.

CCN Amendment Application, Mission, Texas. Dr. Harkins provided professional consultation services for the City of Mission and its application to certificate additional wastewater service area.

Water and Wastewater Service Extension Policy, Austin, Texas. Dr. Harkins made an in-depth review of a water and wastewater supply corporation service extension policy regarding the applicable rules and regulations of the TCEQ and made recommendations for changes and/or improvements.

Certificate of Convenience and Necessity, City of Royse City, Texas. Dr. Harkins has provided and continues to provide the City of Royse City professional services related to the City's CCN which includes address of neighboring utilities. Dr. Harkins has assisted and prepared several CCN amendments, STMs, and related petitions including decertification applications for the City.

CCN Application and Decertification, Harvest Hills Treatment, LTD. Guadalupe County, Texas. Dr. Harkins was the project manager for a new CCN application and decertification from Green Valley SUD. Dr. Harkins presented and prosecuted the petition. Decertification was successful.

CCN Decertification, Keralla Development, Royse City, Texas. Dr. Harkins was the project manager for a large acreage petition for expedited release of a CCN. Dr. Harkins prepared the petition with all the required documentation for decertification to obtain service from an adjacent provider. Decertification was successful. Dr. Harkins also assisted in the determination of monies due as a result of the decertification.

CCN Decertification, Red Wolf Golf Resort, Humble, Texas. Dr. Harkins was the project manager for a large acreage request for expedited release from a CCN. Dr. Harkins presented and prosecuted the petition. Decertification was successful.

CCN Decertification, City of Cibolo, Texas. Dr. Harkins was the project manager to assist the City with potential decertification of a large acreage from a CCN.

Expedited Release, City of Midlothian, Texas. Dr. Harkins completed a petition to the Texas Public Utility Commission for the release of a 120 acre tract from a current CCN holder. Decertification was granted.

CCN Application and Dual Certification, City of Josephine, Texas: Dr. Harkins assisted the City of Josephine with water extension and water utility service which includes permitting and address of neighboring utility issues.

CCN Planning and Decertification, City of Mclendon-Chisholm, Texas. Dr. Harkins provided professional consulting services to the City of Mclendon-Chisholm with regards to development of City water and wastewater sources which included applications for water permits, wastewater permits, CCN applications and CCN decertifications from adjacent and overlying CCNs.

Capital Improvement Planning, Town of Annetta, Parker County, Texas. Dr. Harkins is currently the project manager for the development of long term planning for the Town of Annetta including 5, 10, and 20 year projections for land use, population projections, water use demand, and development of additional water supplies. The long-term planning includes term capital assets to be used for financial budgeting.

Capital Asset Planning, City of Cibolo, Texas. Dr. Harkins was the project manager for the asset inventory and costing of a large water purveyor. Trending and asset inventories will be used to determine the cost of replacement and cost for sale purposes.

Selected Water and Wastewater Rate and Asset Evaluation Experience

Expert Witness, Wholesale Water Rate Appeal, Manor, Texas. Dr. Harkins provided professional engineering services for a master district and three sub districts for a wholesale rate appeal. Work included detailed capital assets inventory, used and useful review, depreciation expense, and developer/customer aid in construction contributions.

Water and Wastewater Utility Inventory, Texas. Dr. Harkins was the project manager for the development of a detailed water and wastewater utility asset inventory as well as completing a trending study to determine costs at installation as well as depreciation values used for rate making procedures.

Water Rate Analysis and Application, Cleburne, Texas. Dr. Harkins completed a water rate analysis as well as an asset inventory for the prosecution of a water rate application with the TCEQ for a multi-system public water utility.

Water Rate Analysis, Granbury, Texas. Dr. Harkins provided professional engineering services to a private water company that serves potable water service to three subdivisions in Hood County, Texas. Services include asset inventory, rate applications, and potential litigation support.

Water and Wastewater Rate Analyses, Manvel, Texas. Dr. Harkins provided expert professional services for water and wastewater rate applications which included a detailed water and wastewater capital assets inventory and trending analysis.

Expert Witness, Water and Sewer Rate and Tariff Change Application, Austin, Texas. Dr. Harkins provided expert witness testimony for the largest rate case filed with the State of Texas. The applicant provides service to 50,000 connections in the State of Texas. Dr. Harkins testified on the just and reasonability of the rates, the substantially similarity issues for consolidated systems, used and useful requirements for items to be included in rate base, basic rate design, and all discovery and other formal requirements of the application as it proceeded through the State Office of Administrative Hearings.

Water Rate and Tariff Change Application, Lake Whitney, Texas. Dr. was the project manager for a rate change application filed with the TCEQ for eleven water systems located in central Texas. Dr. Harkins' was overall responsible for the creation and prosecution of the application as well as providing supporting documentation as required for the application. Dr. Harkins provided detailed information for the systems' capital assets.

Wholesale Rate Review, City of Port Lavaca, Texas. Dr. Harkins assisted in the data collection, review and evaluation of a wholesale water contract for potable use between City of Port Lavaca and the Guadalupe Blanco River Authority.

Water Resources/Civil Experience:

Groundwater Production and Treatment, Town of Annetta, Parker County, Texas. Dr. Harkins is currently the project manager for the design of a groundwater treatment plant including three groundwater wells, two storage tanks, piping, chlorination, and related appurtenances. Water distribution modeling will be used to establish the initial network and all future additions.

Groundwater Production and Treatment, City of Hudson Oaks, Parker County, Texas. Dr. Harkins provides general water and wastewater engineering services for the City. Work has included regulatory compliance, design and installation of groundwater wells, provisional wastewater assessment, and water quality assessment, etc.

Groundwater Assessment, City of Fairview, Collin County, Texas. Dr. Harkins provided an assessment for the development of potential groundwater sources to supplement the City's water sources to meet current and future demands of the City.

Groundwater Production and Treatment, Lower Colorado River Authority, Burnet County, Texas. Dr. Harkins served as the project manager of a groundwater well design, installation and development project for a public water supply. In addition, the project involved a study of the localized groundwater to assess the potential for development of additional ground water supplies and the feasibility of obtaining service from a neighboring utility.

Groundwater Assessment, Private Country Club, Austin, Texas, Dr. Harkins was the project manager for the development and acquisition of potable water supply for a new planned subdivision and golf resort. Tasks include conceptual planning, water source development and development.

Water and Wastewater Utilities Audit, City of Italy, Ellis County, Texas. Dr. Harkins completed a detailed and comprehensive audit of the city's water and wastewater utilities and management. A final report with models and templates was provided.

Groundwater Production and Treatment, City of Italy, Ellis County, Texas. Dr. Harkins served as the project manager for the design, construction and completion of a groundwater well, piping and related appurtenances for the City of Italy. Dr. Harkins completed and provided the required documentation for the application of a grant to assist in funding the new well.

Emergency Action Plans, Large Private Ranch, Texas. Dr. Harkins is the project manager for civil engineering services related to the Texas Commission on Environmental Quality Dam Safety Program for a private client. A total of six lakes are located within the project site, five of which are impounded by earthen dams and one impounded by a concrete dam. Tasks have included dam breach analysis modeling. Three EAPs have been submitted for TCEQ approval and prosecution. In addition, Dr. Harkins is currently assisting in two major dam modifications to re-route spillway flow and decrease dam height and flood storage.

Selected Wastewater Permitting Experience:

New Wastewater Treatment Plant, Town of Annetta, Texas. Dr. Harkins serves as the project manager for several modifications to the Town of Annetta's WWTP including modification to the pond receiving effluent, contact chambers, and digester. Dr. Harkins designed, permitted, and installed a new 164,000 gallons per day wastewater treatment package plant.

Wastewater Permit Renewal, Austin Independent School District, Austin, Texas: Dr. Harkins served as the project manager of a wastewater permit renewal for a package plant with a storage lagoon and on-site irrigation for disposal.

Wastewater Treatment Plant Major Modification, Flagship Emerald Point Marinas, Lake Travis, Texas: Dr. Harkins served as the project manager for an on-site wastewater treatment plant modification as well as an additional 10,000 gpd WWTP.

Wastewater Treatment Facilities, Village at Northlake, II, Jonestown, Texas. Dr. Harkins served as the project manager for a wastewater treatment plant design, construction and permitting for a pending light commercial and hotel development.

Water Quality Modeling of Lake Dunlap (New Braunfels Utilities), New Braunfels, Texas: Dr. Harkins was the field manager for a large multi year water quality study for the processing of a large wastewater treatment plant permit renewal with studies completed to assess nutrient limitations, flow changes and downstream conditions. Dr. Harkins conducted an eighteen-month water quality sampling project. The scope of the project was to collect surface water samples in order to obtain information to assist in determining whether nutrient limitations on point source discharges from NBU's wastewater treatment plants (WWTPs) will prevent the growth of excessive aquatic vegetation in receiving waters, as provided by the Texas Commission on Environmental Quality (TCEQ) regulations at 30 TAC 307.4(e). As part of the water quality study numerous water quality studies related to point and non-point source loadings entering Lake Dunlap from the Comal and Guadalupe were evaluated to determine the impact of point and non-point source nutrient loadings on Lake Dunlap.

Wastewater Permit Renewal, Private Subdivision, Austin, Texas: Dr. Harkins served as the project manager for an on-site wastewater treatment plant permit renewal with the TCEQ. Service is provided by a package plant with drip irrigation.

Wastewater Treatment Facilities, Village at Northlake, II, Jonestown, Texas. Dr. Harkins served as the project manager for a wastewater treatment plant design, construction and permitting for a light commercial and hotel development.

Wastewater Permit Renewal, Flagship Emerald Point Marinas, Lake Travis, Texas: Dr. Harkins served as the project manager for a wastewater treatment plant permit renewal for an on-site wastewater treatment plant utilizing a large in-ground treatment plant and low-dose pressure drain fields.

Wastewater Permit Renewal, Austin Independent School District, Austin, Texas: Dr. Harkins was the project manager of a wastewater permit renewal process as well as a study of alternatives for future service.

Wastewater Permit Renewal, Town of Annetta, Texas: Dr. Harkins served as the project manager for a wastewater treatment plant permit renewal.

Wastewater Permit Renewal, City of Lago Vista, Texas: Dr. Harkins served as the project manager for a wastewater treatment plant permit renewal for a large wastewater treatment plant permit modification to increase use of treated wastewater irrigation and golf course irrigation.

Wastewater Permit Renewal, BCWK, L.P., Houston, Texas: Dr. Harkins served as the project manager for a wastewater treatment plant permit renewal for a large wastewater treatment plant permit with discharge into nearby water courses.

Wastewater Permit Renewal, Austin Independent School District, Austin, Texas: Dr. Harkins was the project manager for the closure and decommissioning of an on-site wastewater treatment plant for a package plant with a storage lagoon and on-site irrigation for disposal.

Wastewater Permit Renewals, City of Corpus Christi, Texas: Dr. Harkins is currently the project manager for permit renewals for three large municipal wastewater treatment plans with discharges into a variety of receiving water bodies with multiple permit effluent requirements, WET, mixing zones, nutrients, DO, etc.